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GREENPEACE ON THE OPERATIONAL PLANNING STAFF?

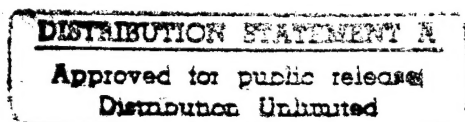
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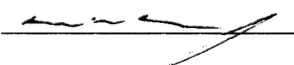
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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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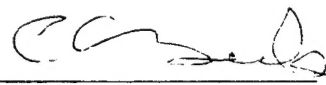


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ABSTRACT

Environmental issues have seldom been a concern for yesterday's operational commander. Tomorrow's operational commander, however, will likely have to address environmental issues in planning, execution, and end state phases of operations and campaigns. The concerns will go far beyond the obvious matter of targeting, where the standard concepts of necessity and proportionality serve as guidance.

Restraints and constraints will spawn from multiple sources, subtle though they may be. Pre-operational restraints, including basing, pre-positioning, and training, are ever burgeoning. Operational restraints will be required by allies from whose territories the operations will be staged, based, executed, or otherwise impacted. Also, it will not be unlikely that limitations towards the enemy's environment will be necessitated by public pressure in the evolutionary process of achieving anti-septic warfare, and will be impacted during both the targeting and end state phases of the operation.

More and more, operational commanders are tasked with conducting MOOTW. The very nature of these operations will necessitate that environmental issues be addressed.

At the close of the Punic Wars, the Romans salted the fields of Carthage, rendering those crop lands infertile. Genghis Khan destroyed irrigation systems in the worlds he conquered. During the American Civil War, General Sheridan torched the fertile Shenandoah Valley and General Sherman burned a wide swath through Georgia and into Carolina to deprive the South of its ability to feed its people and its army. The Vietnam War saw the use of herbicides to defoliate the jungle growth which concealed the enemy. These are but examples of how some leaders have targeted their enemy's environment as part of the conduct of war. It spans time and continues today with the example of retreating Iraqi forces spitefullyⁱ pouring oil into the Persian/Arabian Gulf and igniting the Kuwaiti oil fields as Desert Storm was drawing to a close.

There are other examples of where the people or armies of one warring side sacrificed its own environment. Periclean strategy in the Peloponnesian War called for allowing the Spartan army to savage the undefended Athenian crops and orchards in hopes that the Spartans would become bored and retreat to Sparta. The Russians destroyed Moscow's larder as Napoleon readied to enter the city, thereby denying the enemy the ability to sustain itself. Nearly a century and a half later the Russians employed a scorched-earth policy to deny the German invaders the ability to live off the land.

These are the images typically conjured when one first ponders environmental consideration for operations and campaigns. Indeed, the two paragraphs contained in The Commanders Handbook on the Law of Naval Operations¹ concerning the

ⁱ There is an argument that the Iraqi actions were for operation reasons; specifically, that the oil was poured into the Gulf to deter or hinder the much anticipated amphibious assault which was much heralded by the

environment are: one paragraph entitled "Environmental Consideration"² contained in the chapter on targeting; and one paragraph on "Herbicidal Agents"³ under the chapter concerning chemical weapons.

This paper addresses these obvious environmental issues which an operational commander must be concerned with. More importantly however, the paper, if successful will inculcate upon the operational planners the pervasiveness of environmental issues and the necessity to consider them in all phases of an operation. That necessity will only grow for tomorrow's planners, as environmental restraints and constraints will spawn from multiple sources.

Pre-operational restraints relative to basing, pre-positioning, and training are ever burgeoning. Operational restraints will be imposed by allies from whose territories the operation will be staged, based, executed, or otherwise impacted. Limitations towards the enemy's environment may be necessitated by public pressure in the evolutionary process of achieving anti-septic warfare, and will affect both the targeting and end state phases of the operation.

More and more, operational commanders are tasked with conducting military operations other than war (MOOTW). The very essence of these operations will necessitate that planners consider a broad range of environmental issues.

There are three broad categories of war-related environmental damages: those involving active military purposes, those involving economic or passive military purposes, and those involving collateral damage.⁴ Examples of the first category are: (a)

media; and that setting the wells ablaze was to hinder the navigation and targeting instruments of the coalition air forces.

area denial, such as destruction of natural cover enjoyed by the enemy; and (b) dam-busting, a potentially devastating act for the downstream environment.⁵ Sinking oil tankers or setting fire to oil wells illustrate environmental damage for economic or passive military purposes.⁶ In addition to the obvious example of bombs landing off target, collateral damage to the environment can also take the form of the following Gulf War scenario:

“there is the direct effect of the infrastructure to consider. A city the size of Atlanta was transported to the Arabian continent... not just its infrastructure but its half a million-plus inhabitants. Once there they consumed eight million gallons of water per day in an area where most of the water... is drawn from aquifers holding irreplaceable water 1,000 years old... Six million ‘ready meal’ plastic bags were used each week. Together with subsistence-related garbage, solvents, acids, lubricants and electrical waste - including PCBs - created a further waste-management problem....”⁷

Although this paper is not an inquiry into the state of environmental law, any analysis into the environmental considerations which an operational commander may face must begin with applicable laws. These are the most formal of restraints, the most obvious, and the most severe in their consequences to the individual who chooses to deviate from them. They include international law, domestic law, and foreign law.

International law consists of bilateral or multilateral treaties, Conventions, and Protocols, plus a body of international law known as customary law.⁸ There are two areas of international law which apply: those principles of international environmental protection not specifically related to armed conflict, and those laws which do specifically pertain to armed conflict.⁹ It must be noted that although the laws relating to armed conflict were not specifically enacted to serve as an environmental protection regime, some of their provisions do have that effect.¹⁰

The principle of limitation forms the basis of international environmental protection.¹¹ It does not establish a duty to protect the environment; rather, it expresses the notion of a duty not to damage another State's environment or the environment external to national jurisdiction.¹² This recognizes a State's sovereign right to exploit or protect its own environment.

An argument can be made that environmental laws not part of the laws of armed conflict (LOAC), may not be applicable during armed conflict. The matter is particularly unclear as it relates to circumstances where one of the belligerents is not a signatory to the treaty, or where it is a bilateral treaty between the belligerent parties. When armed conflict breaks out, nations will abrogate or suspend some agreements which they share. Because international agreements are founded generally on the concept of reciprocity, one could expect that certain agreements would be maintained where it is in each party's interest to do so. Additionally, Conventions and Protocols are non-binding if they have not been ratified, or if the belligerent is not a signatory.ⁱ

Customary laws are not always codified. They evolve from a recurrence of usage or practice such that there develops an expectation that the States will behave in a particular fashion, and the underlying conduct or abstention becomes both a right and an obligation.¹³ As with the codified laws already discussed, customary laws also may be abrogated or suspended.

There are circumstances where the non-LOAC environmental laws should continue in force. Those agreements between a belligerent party and allies or neutrals

ⁱ Portions of Conventions and Protocols not ratified can still be binding under customary law. As an example, the United States has not ratified Protocol I to the Geneva Convention, but considers some of its provisions to be restatements of customary international law.

should remain in effect. Specific agreements such as those relating to Antarctica and space should also survive the outbreak of hostilities.

The principle of limitation also forms the basis of environmental protection under the LOAC. Article 22 of the 1907 Hague Conventions reads: "The right of belligerents to adopt means of injuring the enemy is not unlimited."¹⁴ Protocol I of the 1949 Geneva Conventions states:

"It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the environment... Care shall be taken in warfare to protect the natural environment... This protection includes... methods or means of warfare which are intended or may be expected to cause such damage... Attacks against the natural environment by way of reprisals are prohibited."¹⁵

A more recent assembly is the Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques (ENMOD) of 1977.ⁱ Article 1 of ENMOD proscribes States from engaging in "military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as a means of destruction, damage or injury to any other State Party."¹⁶ These techniques are defined in Article 2 as being "any technique for changing - - through the deliberate manipulation of natural processes - - the dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere, or outer space."¹⁷ The elements to consider then, are the three criteria (widespread, long-lasting, and severe) plus intent (deliberate manipulation).¹⁸

ⁱ ENMOD was ratified by the United States in 1980. Therefore, although its provisions may not be customary law in a global sense, they are applicable for the operational commanders and planners who are the intended audience of this paper.

The Understandings relating to ENMOD ascribe the following meanings to the criterion terms: "Widespread - encompassing an area on the scale of several hundred square kilometres; Long Lasting - lasting for a period of several months, or approximately a season; and Severe - involving serious or significant disruption to human life, natural and economic resources or other assets."¹⁹ The first two are clearly factual, but the third criterion requires subjective judgment.²⁰ The notion of intent will preclude the proscription of inadvertent or collateral damage.²¹

It is arguable if ENMOD extends to the use of herbicides. NWP 1-14M explicitly states that the use of herbicidal agents during armed conflict can be authorized with NCA approval.²² However, it also states that the United States has renounced the first use of herbicides except to control vegetation within bases and around their defensive perimeters.²³

On a maritime setting, the Law of the Sea Treaty provides that States have an obligation to protect and preserve the marine environment.²⁴ It prescribes that States take measures to prevent, control, and reduce pollution of the maritime environment.²⁵ This includes preventing pollution discharges from both vessels and facilities, controlling the dumping of wastes, and preventing accidents.²⁶

Targeting represents that military activity having the most immediate impact on the environment. The two primary limitations on targeting are necessity and proportionality. Military necessity is that doctrine which links targeting to a military purpose. Hague IV prohibits the destruction or seizure of the enemy's property "unless such destruction or seizure be imperatively demanded by the necessities of war."²⁷ Although this may apply to the natural environment only by implication, the recently

published NWP 1-14M fills the gap by expressing the same notion with specific reference to the natural environment. First, it addresses damages which are caused when the environment is not the primary target. "It is not unlawful to cause collateral damage to the natural environment during an attack upon a legitimate military objective."²⁸ Then it addresses the notion of damages which could result either indirectly or directly. "Destruction of the natural environment not necessitated by mission accomplishment and carried out wantonly is prohibited."²⁹

Proportionality, the second limitation on targeting, expresses the notion that incidental damages should not be "excessive in relation to the concrete and direct military advantage anticipated."³⁰ NWP 1-14M prescribes to commanders the "affirmative obligation to avoid unnecessary damage to the environment to the extent that it is practicable to do so consistent with mission accomplishment....and as far as military requirements permit, methods or means of warfare should be employed with due regard to the protection and preservation of the natural environment."³¹

Application of these principles becomes a matter of asking two questions. First, is there a military objective? Second, will the anticipated incidental injury or damage be excessive when weighed against the military advantage to be gained?³² NWP 1-14M characterizes military objects as:

"combatants and those objects which, by their nature, location, purpose, or use, effectively contribute to the enemy's war-fighting or war-sustaining capability and whose total or partial destruction, capture, or neutralization would constitute a definite military advantage to the attacker under the circumstances at the time of the attack. Military advantage may involve a variety of considerations, including the security of the attacking force."³³

The concepts of necessity and proportionality are not new. The renowned Dutch scholar, Hugo Grotius, expressed similar notions in his masterful work, The Law of War and Peace.ⁱ He wrote the following passages over 350 years ago:

“justice does not countenance laying waste a whole kingdom because some flocks have been driven off or some houses burned.... These are reasons that warrant such destruction, provided it is kept within limits, so that no wrong is done.... The method of devastation then should be used, if by it the enemy is reduced quickly to suing for peace.... However,... such methods are more often employed out of hatred than for prudence. It is usually the case that there are no reasons to warrant laying waste a country, or that there are other and stronger reasons against it.... Why vent anger on inanimate things?... Do trees, like the men who are your enemies, display signs of hostility, so that for the things they do or threaten to do they must be uprooted?”³⁴

There are two other restraints on targeting. Although they arise from humanitarian concerns and relate directly to non-combatants and their property/objects, they do relate indirectly to the environment. Traditional rules of war require that belligerents distinguish between civilian and military objects and objectives.³⁵ This discrimination notion is also found in NWP 1-14M, which states that “civilian objects may not be made the object of attack.”³⁶ Because these consist of “all civilian property and activities other than those used to sustain the enemy’s war-fighting capability,”³⁷ parts of the environment could be included.

Humanitarian concerns also form the foundation for the concept of prevention of unnecessary suffering. Attacking such installations as dams and dikes may be prohibited because of the disproportionate human suffering which results,³⁸ but much of that

ⁱ Hugo Grotius is the latinized pen name of Huig van Groot, regarded by many as the father of international law. First published in 1625, *De Jure Belli ac Pacis* (Law of War and Peace) was the seminal work on freedom of the seas, neutral rights, immunity of ambassadors, declaration of war, and international law. It is still frequently cited in those areas of study.

suffering would arise from the environmental devastation that the rushing water would cause. Similarly prohibited is the "intentional destruction of food, crops, livestock, drinking water, and other objects indispensable to the survival of the civilian population, for the specific purpose of denying the civilian population of their use."³⁹

United States domestic laws will also have applicability for operational commanders and planners. They will serve as constraints to all activities within United States jurisdiction. Even if the operational area is without the jurisdictional United States, the lines of communication and support will likely extend back to it. Training and load-out during the pre-operational phase; re-supply, reinforcement, and replenishment during the operational phase; and reentry and return during the post operational phase, will likely impact jurisdictional United States. Hazardous waste management may be significantly increased in each phase.

Federal statutes designed to protect the environment have increased in number from as few as 5 in 1970ⁱ, to at least 47 in 1995.⁴⁰ The ensuing lustrum and decade will likely see reauthorization of existing laws, passage of additional statutes, and institution of implementing regulations to address newly-recognized requirements for environmental protection.⁴¹ Many of the existing laws waive sovereign immunity,⁴² and trend favors future environmental laws to do the same. Planners should expect that existing statutes will remain essentially in full force and effect during an operation. The end-state phase of the operation may require particular attention and emphasis.

ⁱ One of the early Federal statutes bearing on environmental safeguards is the Rivers and Harbors Act of 1899. Those portions of that act which are still in effect are frequently referred to as the Refuse Act of 1899.

The 1982 Supreme Court case of Weinberger v. Romero-Barcelo⁴³ demonstrates the applicability of environmental laws to military operations, and the court's ability to apply equitable remedies within the language of the statutes. This particular case involved Navy peace-time training missions in Puerto Rican waters. Although statutes may contain exemptions for emergency situations, the case suggests that the courts will construe exceptions very narrowly. In addition, Executive Order 12088, entitled "Federal Compliance with Pollution Control Standards," mandates that Federal facilities monitor and control environmental pollution in compliance with Federal environmental regulations.⁴⁴

The following is a listing of the principle environmental laws with a brief description of their applicability:

- a. Clean Air Act - requires prevention, control, and abatement of air pollution from stationary and mobile sources;
- b. Clean Water Act - regulates discharge of pollutants from point source into waters of U.S.;
- c. Comprehensive Environmental Response, Compensation and Liability Act, as amended - regulates releases of hazardous substances, and cleanup of hazardous waste sites;
- d. Emergency Planning and Community Right-to-Know Act - requires emergency planning for releases of hazardous substances, and provides local governments with information concerning chemical hazards;
- e. Endangered Species Act - requires that Federal agencies not adversely impact critical habitats or existence of endangered species;
- f. Federal Insecticide, Fungicide, and Rodenticide Act - requires proper management of pesticide use, storage, and disposal;
- g. Floodplains and Wetlands (Executive Orders 11988 and 11990) - identify and protect wetlands and floodplains;
- h. Hazardous Material Transportation Act - regulates intrastate and interstate handling, routing, and transporting of hazardous materials;
- i. National Environmental Policy Act - establishes decision making process for Federal actions, and requires environmental impact statements;

- j. National Historic Preservation Act - requires Federal agencies to consider the effects of their actions on cultural and historic resources;
- k. Noise Control Act - establishes noise standards;
- l. Oil Pollution Act - requires readiness plans for containing and removing oil spills, and establishes liabilities;¹
- m. Resource Conservation and Recovery Act / Hazardous and Solid Waste Amendments - establishes standards for generation, storage, transportation, and disposal of hazardous waste;
- n. Safe Drinking Water Act - regulates drinking water quality with regards to pollutants; and
- o. Toxic Substances Control Act - regulates toxic substances from generation to disposal.⁴⁵

Operations taking place without United States jurisdiction, may face environmental restraints from host states. Executive Order 12114 addresses major Federal actions overseas and their environmental impact to the host nation.⁴⁶ The Order establishes procedures for Federal agencies to consider the significant environmental effects of their overseas actions.⁴⁷ Whether the ally's territory is the site of the operation, or whether it is used for pre-positioning supplies, basing troops, or staging the operation or logistics, the ally will likely impose environmental limitations. No ally wants to end up with a proverbial "cure worse than the disease." It has been proffered that armies will no longer be able to live off the land and forage for supplies.⁴⁸ The stress of increased population and industrialization has left land in most areas of the world incapable of sustaining military operations.⁴⁹

More and more, the military is becoming engaged in Military Operations Other Than War (MOOTW). The types of MOOTW listed in the Joint Pub are:

"arms control, combating terrorism, support to counterdrug operations, enforcement of sanctions/maritime intercept operations, enforcing exclusion zones, enforcing freedom of navigation and overflight,

¹ Although OPA contains contradictory language regarding applicability to public vessels (the matter has not yet been settled in Federal court), even if OPA liability does not apply to public vessels, traditional admiralty liability would continue to apply under the Public Vessels Act and Suits in Admiralty Act.

humanitarian assistance, military support to civil authorities, nation assistance/support to counterinsurgency, noncombatant evacuation operations, peace operations, protection of shipping, recovery operations, show of force operations, strikes and raids, and support to insurgency.”⁵⁰

The very nature of MOOTW frequently puts the operational forces in close contact with the civil population in the operational area. It naturally follows then, particularly in humanitarian operations, that environmental issues will be of immediate concern. To illustrate: President Reagan was fond of citing the old adage that proclaims that giving a starving man a fish only means he will be hungry again tomorrow; but when you teach him how to fish, he will never go hungry again. Antithetical to this would be an humanitarian MOOTW which destroys fields with hazardous waste while delivering flour. Environmental protection then, becomes a part of establishing the legitimacy of the operation with the indigenous population.

Another facet of MOOTW which highlights environmental issues is increased public pressure and the greater scrutiny which accompanies it. “Political objectives drive MOOTW at every level from strategic to tactical.”⁵¹ Again environmental protection could become part of establishing legitimacy of the operation; only here, it would be with the American public. And public support, derived from reasoned deliberations, is essential for any American military operation.⁵²

The range of environmental issues which may arise during a MOOTW is as varied and broad as the missions themselves. Environmental issues which have arisen during recent MOOTW include “transportation and disposal of hazardous waste produced during the operation, disposal of solid waste and sewage produced during the operation, oil spill response and cleanup, and potential impact on endangered species

habitat.”⁵³ Including environmental considerations in the planning process could result in such things as: locating a refugee camp away from an area of critical habitat or away from an area where the water source could be contaminated; taking action to preserve endangered species and habitats; or identifying and taking actions to protect and conserve areas of natural heritage and cultural significance.⁵⁴

Environmental matters which arise during the pre-operational phase should be the easiest to plan. For the most part, the additional environmental stress during this phase will not be dependent upon the nature of the underlying operation. Instead, it will be mainly a matter of surge, which is a concept well known to planners. Incorporating awareness of environmental issues into doctrinal training at all levels will transform potential crises response into routine business practices.⁵⁵ In fact, great strides have been made in this regard. As a result of the laws and public awareness towards environmental issues over the past three decades, private industry has responded. The decade of the eighties saw waste generation in the defense industry reduced by over 60 percent.⁵⁶

Notwithstanding the high degree of correlation between the nature and details of the operation and the environmental conditions which will be impacted, environmental planning can still occur. The singularly significant action an operational commander can take to effectively deal with the environmental issues which will arise during the operation is to have people on staff, and at all levels of command, who have been trained to recognize the issues. The issues of targeting have been discussed at length. In addition, many issues can be anticipated during the assessment and campaign planning process. One commentator of operations in Yugoslavia has observed that “even the peacekeepers affect the environment by the very scale of their operations which include

building camps, continuously moving large convoys over a rudimentary road system, and trying to keep all of this supplied by land, sea, and air."⁵⁷ Others will require local knowledge which may not be immediately available.

Generic matters can be pre-planned. An example of this is the recent Memorandum of Agreement (MOA) between the Secretaries of Defense and Transportation concerning the use of Coast Guard capabilities and resources to support national military strategy.⁵⁸ Under the MOA annex concerning Environmental Defense Operations, the Chief of Naval Operations and the Commandant of the Coast Guard agreed to the following initiative:

"The Coast Guard will actively participate in the joint operational planning process, including anticipation of environmental exploitation during hostilities and the development of related intelligence to facilitate response and minimize operational interference and environmental damage. The Navy and Coast Guard will also establish procedures to coordinate response to pollution incidents in peacetime, overseas or in domestic waters, to maximize resources and capabilities."⁵⁹

Post-operation applicability takes several forms. There is the cleanup of the destruction caused by the hostilities, such as the oil fires and pollution in Kuwait. There is also debris on the battlefield, which modern weaponry leaves more hazardous⁶⁰. In the Gulf War, for example, the greatest threats were mines (over one million emplaced by Iraq), unexploded cluster bombs and sub-munitions (61,000 cluster bombs were expended with over 20 million bomblets by the coalition), and shells with depleted uranium (DU) (about 14,000 DU tank rounds and 940,000 30mm DU bullets fired from aircraft by the coalition).⁶¹ And, there is all the generated waste. The need to quickly dispose of waste often causes the mixing of industrial and domestic waste.⁶² "PCBs from destroyed transformers pose an additional risk. Hazardous waste at abandoned or

damaged industrial sites must be properly disposed of... Untreated pathological waste from hospitals require special disposal..."⁶³

CONCLUSION

Along with the fall of Communism, the success of the Gulf War has helped transform the American post-Vietnam zeitgeist of pessimism and distrust for authority and the military, into a sense of supremacy. With it has come a quest, if not a belief, that wars can be antiseptic. Concomitant with this has been nearly three decades of waxing awareness of, and concern for, the natural environment. That these two juxtaposed interests would eventually meet, should come as little surprise. Military operations and environmental protection are linked for the foreseeable future.

The general requirement for an operational commander to consider environmental effects of operations currently exists. There are international laws, domestic laws, and internal directives which apply; and the trend is that more definitive laws and directives will follow. Pre-operational, operational, and end-state phases will all have to incorporate environmental issues into their planning. This will be particularly true of the ever-expanding MOOTW missions being assigned.

If these conclusions are correct, then prudent planning dictates a proactive approach. Training at all levels of command, and service doctrine should address these environmental limitations. Finally, a Joint Pub dedicated to environmental implications of operations would be an appropriate action to inspire commanders and planners to action. It's better to have a plan one doesn't need, than to need a plan one doesn't have.

NOTES

- ¹ U.S. Navy Dept., The Commanders Handbook on the Law of Naval Operations, NWP 1-14M (Formerly NWP 9 (Rev. A))/FMFM 1-10/COMDTPUB P5800.7 (Norfolk: 1995).
- ² *Ibid.*, 8-2.
- ³ *Ibid.*, 10-4.
- ⁴ Jeremy Legget, "The Environmental Impact of War: a Scientific Analysis and Greenpeace's Reaction," in Environmental Protection and the Law of War ed. Glen Plant (London: Belhaven Press, 1992), 68.
- ⁵ *Ibid.*, 68-70.
- ⁶ *Ibid.*, 70-71.
- ⁷ *Ibid.*, 73-74.
- ⁸ Richard Carruthers, "International Controls on the Impact on the Environment of Wartime Operations," Environmental and Planning Law Journal, February 1993, 39.
- ⁹ Michael Bothe, quoted in Betsy Baker, "Legal Protections for the Environment in Times of Armed Conflict," Journal of Virginia International Law, 33 1993, 353.
- ¹⁰ Carruthers, 50.
- ¹¹ Betsy Baker, "Legal Protections for the Environment in Times of Armed Conflict," Journal of Virginia International Law, 33 1993, 354.
- ¹² Bruce Harlow and Mike McGregor, "International Environmental Law Considerations During Military Operations Other Than War," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 2.
- ¹³ Carruthers, 39.
- ¹⁴ Hague Convention No. IV Respecting the Laws and Customs of War on Land with Annex of Regulations, 18 October 1907, Article 22, TIAS 539.
- ¹⁵ Protocols to the Geneva Conventions of 12 August 1949, Protocol 1, Articles 35, 55.
- ¹⁶ Glen Plant, ed, Environmental Protection and the Law of War (London: Belhaven Press, 1992), 23.
- ¹⁷ *Ibid.*
- ¹⁸ Carruthers, 46.
- ¹⁹ *Ibid.*, note 84, 53.
- ²⁰ *Ibid.*, 46
- ²¹ *Ibid.*
- ²² NWP 1-14M, 10.3.3.
- ²³ *Ibid.*
- ²⁴ James A Burger, "Environmental Aspects of Non-international Conflicts: The Experience in Former Yugoslavia," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 7.
- ²⁵ *Ibid.*
- ²⁶ *Ibid.*
- ²⁷ Hague, Article 23.
- ²⁸ NWP 1-14M, 8.1.3.
- ²⁹ *Ibid.*
- ³⁰ Geneva Protocol I, Article 51, 5(b).
- ³¹ NWP 1-14M, 8.1.3.
- ³² Harry L. Heintzeman, IV and Edmund S. Bloom, "A Planning Primer: How to Provide Effective Legal Input into the War Planning and Combat Execution Process," The Air Force Law Review, 37 1994, 21.
- ³³ NWP 1-14M, 8.1.1.
- ³⁴ Hugo Grotius, The War of War and Peace, trans. Louise R. Loomis (Roslyn: Walter J. Black, 1949), 360-361.
- ³⁵ Baker, 363.
- ³⁶ NWP 1-14M, 8.1.2.
- ³⁷ *Ibid.*
- ³⁸ *Ibid.*
- ³⁹ *Ibid.*

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- ⁴⁰ Harlow and McGregor, 6.
- ⁴¹ U.S. Coast Guard, Commanding Officer's Environmental Guide, COMDTPUB 5090.1 (Washington: 1993), 41.
- ⁴² Ibid.
- ⁴³ Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982).
- ⁴⁴ COMDTPUB 5090.1, 43.
- ⁴⁵ Ibid., 41-43.
- ⁴⁶ Ibid., 44.
- ⁴⁷ Ibid.
- ⁴⁸ Frank R. Finch, "This is Our Land: The Environmental Threat of Army Operations," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 16.
- ⁴⁹ Ibid.
- ⁵⁰ Joint Chiefs of Staff, Joint Doctrine for Military Operations Other Than War, Joint Pub 3-07 (Washington: 1995), ix and III-1.
- ⁵¹ Ibid., I-2.
- ⁵² Harry H. Almond, Jr., "Strategies for Protecting the Environment: The Process of Coercion," University of Toledo Law Review, 23 1992, 340.
- ⁵³ Harlow and McGregor, 14.
- ⁵⁴ Ibid., 15.
- ⁵⁵ Joseph G. Garrett, III, "The Army and the Environment: Environmental Consideration During Army Operations," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 13-15.
- ⁵⁶ Finch, 19.
- ⁵⁷ Burger, 3.
- ⁵⁸ Secretary of Defense and Secretary of Transportation, Memorandum of Agreement Between the Department of Defense and the Department of Transportation on the Use of U.S. Coast Guard Capabilities and Resources in Support of the National Military Strategy, (Washington: 1995).
- ⁵⁹ Ibid., Annex B.
- ⁶⁰ Adam Roberts, "Environmental Issues in International Armed Conflict: The Experience of the 1991 Gulf War," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 53.
- ⁶¹ William M. Arkin, "The Environmental Threat of Military Operations," (paper presented at Symposium on Protection of the Environment During Armed Conflict and Other Military Operations, Naval War College, Newport, 20-22 September 1995), 14-17.
- ⁶² Finch, 13.
- ⁶³ Ibid.

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